

CTIP STUDY PROBLEM STATEMENT

Request for Funding

FY 2001

FHWA Strategic Goal Area: Productivity

Project Title: Asphalt Binder Mix Fatigue Performance

Background: In May 2000 an FHWA Pooled Fund Study was established to develop information on the relationship between asphalt binder properties and pavement fatigue performance. This is to assist the Asphalt Binder Committee in its deliberations relative to the PG binder specifications. This study is the result of research presented over the past two years suggesting that the design parameters are not applicable to pavements containing asphalt layers greater than about 75 mm in thickness. The study will examine the influence of a range of binder types on the fatigue response of pavement structures of various thicknesses in representative environmental regions. Nine binders representing different types and PG-grades will be evaluated. One aggregate will be used to minimize the testing, but the mixes will be designed and tested consistently. Five representative environments will be evaluated.

Objectives: Fatigue performance as a function of various binder parameters vs. traffic and environment will be analyzed. From these analyses guidance should be forthcoming for appropriate specifications requirements for fatigue.

Status: Since the current specifications parameter do not properly reflect pavement performance, the Pooled Fund study will test and evaluate nine binders and report findings to support modifications to the current specification. Participation from State DOT's, academic and private sector funding is currently committed, but this study is not fully funded. Testing and analysis of the proposed 162 specimens requires additional support. Since this study has application to all asphalt highway construction, it is appropriate for CTIP to participate to complete the testing and analysis.

Expected Products and Milestones by Fiscal Year: The product of this study will be an analysis report ultimately leading to modifications to the asphalt binder specifications. The milestones will follow the Pooled Fund Study schedule.

Duration: Testing and analysis over a 12 month period.

Estimated Cost by Fiscal Year: FY 2001 = \$80,000

Suggested Organization Method: Participate in the Pooled Fund study lead by the Pacific Coast Conference Asphalt Specifications Committee.

Submitted:

Agency/Division: Western Federal Lands Highway Division

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Champion:

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Funding Source: (Check one.)

- 9 Agency Fund
- General Fund